

Flight Adaptive Blade for Optimum Rotor Response (FABFORR), Phase I

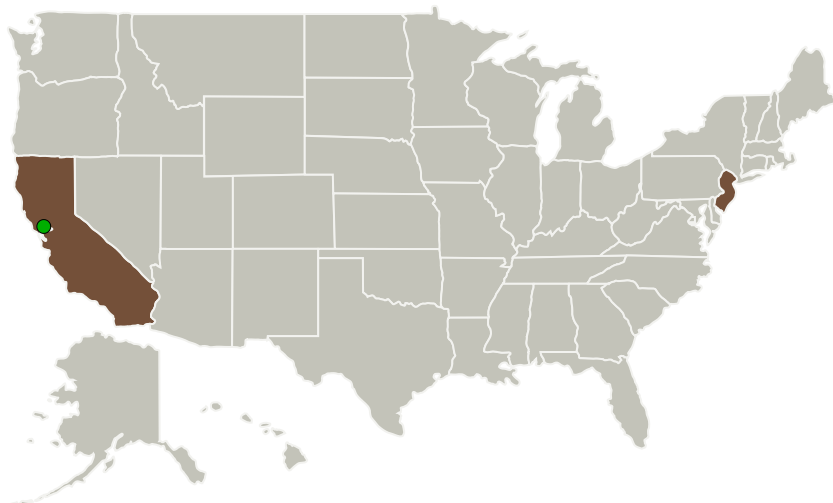
Completed Technology Project (2010 - 2010)



Project Introduction

While past research has demonstrated the utility and benefits to be gained with the application of advanced rotor system control concepts, none have been implemented to date on a production military or commercial rotorcraft. A key contributor to this fact is the inherent cost associated with installation and maintenance of these control systems, since many system designs require the replacement of a helicopter's rotor blades, rotor hub components, or both. The proposed work addresses this deficiency through the development of an on-blade full-span camber control system that reaps many of the known benefits of advanced rotor control, in a retrofit design approach that has the potential to achieve production status due to its lower risks and costs compared to previous system concepts. The design leverages past work in the use of smart-material actuated bistable tabs for rotor blade tracking, with a newer integral actuation concept that will lead toward a more robust and flightworthy design.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Continuum Dynamics, Inc.	Lead Organization	Industry	Ewing, New Jersey
● Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California



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Primary U.S. Work Locations

California

New Jersey

Project Transitions



January 2010: Project Start



July 2010: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139945>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission
Directorate (STMD)

Lead Organization:

Continuum Dynamics, Inc.

Responsible Program:

Small Business Innovation
Research/Small Business Tech
Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Robert Mckillip

Co-Investigator:

Robert Mckillip

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Technology Maturity (TRL)

Start: 4
Current: 5
Estimated End: 5



Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - TX15.1 Aerosciences
 - TX15.1.4 Aeroacoustics

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System